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Differences in At-Risk Behaviors between Heterosexual and Non-Heterosexual Male Users of Methamphetamine

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Abstract

Previous studies examining at-risk behaviors among male methamphetamine users have primarily focused on men who have sex with men (MSM) while ignoring heterosexual methamphetamine users. In this study, active male users of methamphetamine are differentiated based on sexual orientation. Targeted sampling guided the recruitment and face-to-face survey interviews were conducted with 108 active male methamphetamine users. Participants were classified into heterosexual (n = 69) and non-heterosexual (n = 39) users. Between-group differences were found based on socio-demographics, drug use histories, HIV sexual-risk behavior, and exposure to and participation in violence. Heterosexual males were more likely than their non-heterosexual peers to be younger, less educated, unemployed, recent injection drug users, participants in anti-social behaviors, and less likely to be tested for HIV. Non-heterosexual males were more likely than heterosexual males to identify methamphetamine as their primary drug of choice, commence polydrug use at a later age, and report more sexual partners in the past year. No between-group differences were identified for frequency of methamphetamine use, utilization of condoms, and HIV/AIDS-related knowledge. Findings from this study may lead to the development and/or refinement of successful prevention and intervention strategies that are more culturally sensitive to heterosexual and non-heterosexual male users of methamphetamine.

Differences in At-Risk Behaviors between Heterosexual and Non-Heterosexual Male Users of Methamphetamine

Multiple epidemiological surveillance systems point to methamphetamine use as one of the fastest growing drug problems in the United States. Drug treatment, arrest, emergency room, and mortality data all indicate an increasing use of methamphetamine, especially in the Southeastern U.S. (Community Epidemiological Work Group [CEWG], 2005; Drug Enforcement Administration [DEA], 2005; Substance Abuse and Mental Health Services Administration [SAMHSA], 2005). Along with this increased prevalence, there exists a growing body of literature examining the epidemiology (Anglin, Burke, Perrochet, Stamper, & Dawud-Noursi, 2000; Gibson, Leamon, & Flynn, 2002), drug treatment (Hser, Evans, & Huang, 2005, Shoptaw et al., 2005), behavioral (Halkitis, Shrem, & Martin, 2005; Maxwell, 2005), and neurological (Chapman, Hanson, Kesner, & Keefe, 2001; Nordahl, Salo, & Leamon, 2003) aspects associated with methamphetamine use. These studies have largely been conducted with abstaining adult methamphetamine users identified by participation in formal substance abuse treatment. In addition, many of these investigations included male and female participants without differentiating between users based on their sexual orientation. Studies that do account for sexual orientation often involve samples that consist entirely of men having sex with men (MSM) or of heterosexuals and thus, are not comparative.

Research has demonstrated the emerging influence of methamphetamine in the MSM community (Molitor, Traux, Ruix, & Sun, 1998; Newmeyer, 2003; Prestage et al., 2001), frequently linking it to high risk HIV sexual behaviors such as having multiple sexual partners (Halkitis, Parsons, & Wilton, 2003), decreased condom use (Fernandez et al., 2004), and an increased probability of HIV infection and having another STD (Gorman, Nelson, & Applegate, 2004; Shoptaw, Peck, & Reback, 2003). Other research has found a decrease in HIV seropositive

disclosure (Larkins, Reback, & Shoptaw, 2005) and a reduction in HIV medication adherence (Reback, Larkins, & Shoptaw, 2003) among methamphetamine-using MSM. Multiple social contexts where MSM meet others and use methamphetamine, such as circuit parties (Kurtz, 2005; Lee, Galanter, & Dermatis, 2003; Mattison, Ross, Wolfson, & Franklin, 2001), bath houses (Binson, Woods, Pollack, Paul, Stall, & Catania, 2002), sex clubs (Halkitis, Parsons, & Stirratt, 2001), and internet chat-rooms (Benotsch, Kalichman, & Cage, 2002; Dew & Chaney, in press) have been identified.

Whereas research has depicted methamphetamine use among MSM, there exists limited attention on heterosexual male users of methamphetamine. The data that is specifically available on heterosexual male users of methamphetamine are mostly derived from studies that address gender differences among only heterosexuals (Semple, Patterson, & Rant, 2004a, 2004b, 2005). Compared to women, these investigations have found men to show a slower progression of methamphetamine use (Gibson, Leamon, & Flynn, 2002), lower levels of depression (Semple, Patterson, & Rant, 2005), reduced treatment efficacy (Hser, Evans, & Huang, 2005) and higher prevalence of injection drug-use (Brecht, O'Brien, Mayrhauser, & Anglin, 2003). Although differences among male and female users of methamphetamine have been found, there remains no empirical evidence documenting the differences in at-risk behaviors between heterosexual and non-heterosexual users.

The present study characterizes a sample of both heterosexual and non-heterosexual active male methamphetamine users by exploring distinctions in demographics, drug use history, sexual risk behavior, and exposure and propensity for violence. Considering the importance in ascertaining differences between these active male users, the current study seeks to examine the following research questions: (a) do heterosexual and non-heterosexual active users of methamphetamine differ by socio-demographics; (b) how are the drug trajectories between these two groups

dissimilar; (c) what sexual at-risk behaviors are active male methamphetamine users engaging and do these activities vary by sexual identity; and (d) what is the relationship between violence and sexual identity among male methamphetamine users. Information derived from this study may guide the development of successful prevention and intervention strategies that target both heterosexual and non-heterosexual males.

Method

Study Procedures

The data presented are part of a larger project, TRENDS, an investigation of emerging drug use patterns in Atlanta, GA between September 1999 and April 2003. An emphasis was placed on heroin and methamphetamine because epidemiological indicators had found significant increases in the local use of these substances (National Institute on Drug Abuse, 2001, SAMHSA, 1999). Community identification (CID) methods were used to develop targeted sampling strategies in a population of adult drug users (Tashima, Crain, O'Reilly, & Sterk-Elifson, 1996). For the purpose of this study, we focus on male methamphetamine users.

Epidemiological indicators of prevalence and at-risk groups were identified via emergency room admissions, law enforcement statistics, expert opinions from local public health and social service authorities, and members of the target population. Street outreach techniques, such as ethnographic mapping and targeted sampling, were used to access multiple communities and social settings. Ranging in age from their mid-twenties to late-forties, nine women and five men of various racial and ethnic backgrounds were trained by the principal investigator and other project leaders to complete the recruiting and interviewing. Once the sampling sites were selected, targeted sampling was used to obtain a diverse representation of drug users. Snowball or chain-referral and theoretical sampling were then used to ensure a wide range of drug use experiences.

Persons eligible for participation in the TRENDS project had to meet the following criteria: (1) be 18 years of age or older at time of the interview; (2) reside in the metropolitan Atlanta area; (3) have used methamphetamine at least once in the previous 30 days and at least six times in the six months prior to the interview; (4) not currently be in substance abuse treatment, prison, or jail; and (5) not be cognitively impaired by drug and/or alcohol use at time of interview. All interviews were conducted in English.

Interviews were scheduled for individuals who met the criteria for and were interested in participation. The interviews were held at mutually agreed upon central-locations and included such venues as the project offices, the participant's home, local restaurant or cafeteria, coffee shop, community centers, and the interviewer's car. For purposes of safety and inscribing of ethnographic notes, the primary interviewer was always accompanied by an additional field member. The consent procedures, approved by both Georgia State University's and Emory University's IRBs, were reviewed and signed prior to the collection of any data. Further screening of participants occurred prior to the interview in order to confirm suitability. Study participants were also notified that all study materials were protected by a certificate of confidentiality. The average length of time to complete the interview was one hour, and participants received a $15.00 compensation for their time.

Study Sample

The sample in the present analysis consisted of 108 actively using male adult methamphetamine users in Atlanta, Georgia (age: M = 27.2 years, SD = 8.5, range 18-48 years). Of the 108 participants, 64% (n = 69) self-identified as heterosexual (age: m = 24.8 years, sd = 6.9, range 18-46 years) and 36% (n = 39) as non-heterosexual (age: m = 31.5 years, sd = 9.4, range 19-48 years). Nearly 80 percent of all participants self-identified as white, and one out of 10 reported

being African American. Almost one-half of the study participants reported having some college education or more. Almost two-fifths of the study respondents were unemployed or unable to work due to disability (38%), with another two-fifths indicated they work full-time (40%). One-half of the study participants reported monthly incomes of less than $1,000. One out of every four study participants reported having been homeless in the past 12 months. Approximately one in 10 men self-reported being HIV positive.

The frequency of methamphetamine use in the past 30 days was high (M = 12.1 days, SD = 9.8, range 1-30 days) and the preferred route of administration was snort/intranasal (51%), followed by inject (22%). Forty-six percent (n = 54) of the study participants reported spending more than $100 on methamphetamine in the past 30 days, whereas 12% (n = 18) reported spending more than $500 during the same time period. Forty-eight percent of the study participants identified methamphetamine as their current drug of choice, followed by marijuana (21.3%).

Measures

Demographic characteristics. Selected demographic items included gender, age, racial/ethnic background, educational achievement, present employment situation, total monthly income, current living arrangement, history of homelessness, geographic area currently residing, relationship status, and sexual orientation.

Drug use history. A study participant's history of substance use was assessed by a series of questions that addressed commencement (including age and method of administration) and drug use trends in the past 30 and 90 days (comprising route of administration, amount of substance used, and money spent). The evaluation of previous drug use included the following substances: tobacco, alcohol, crack, powder cocaine, heroin, unprescribed opiates, methamphetamine, amphetamine, hallucinogens, marijuana, ecstasy, and ketamine. A study participant's primary self-identified drug

of choice was obtained and types of individuals (e.g., relatives, steady partner, and friends) with whom the person had bought and shared drugs were considered. Additional questions regarding methamphetamine use included dichotomous (yes/no) choices related to experienced side effects within the past 30 days (e.g., nose irritation, chest irritation, irregular heart beat, and paranoia) and ordinal assessments of the individual's perception of being out of control (ranging from 1 = "never" to 4 = "always"), desire to cease use (ranging from 1 = "never" to 5 = "I can't stop") and ability to stop (ranging from 1 = "impossible" to 4 = "easy").

Sexual risk behavior. An array of questions that assessed behaviors that place one at risk for HIV, hepatitis C, and other sexually transmitted infections (STI) were posed. A study participant selected a dichotomous answer (yes/no) to the following questions: "Have you had sex with a person who injected drugs?", "Have you ever had sex with a person who you paid with money or drugs?", and "Have you ever exchanged sex for drugs?" Nine Likert-scale questions (ranging from 0 = "never" to 4 = "always") were used to determine the frequency of engaging in high-risk sexual activity (e.g., "How often during the past year did you have sex while high on alcohol or drugs?" How often during the past year did you have sex while your partner was high on alcohol or drugs?" How often during the past year did you have two or more sexual partners at the same time?"). Study participants were also asked to provide the total number of sexual partners in the past year. Information regarding the frequency of and reasons for getting tested for HIV and hepatitis C was obtained. Individuals were asked how many times one had been tested for HIV/AIDS and hepatitis C as well as what influenced the decision to get tested (e.g., "You thought you were at risk", "A health care worker suggested it or was part of a routine medical exam", "My partner wanted me to get tested"). Having personal knowledge of HIV/AIDS was determined by dichotomous questions

(yes/no) that asked if the study participant knew anyone who was HIV positive, living with AIDS, or died from AIDS.

History of violence. Several dichotomous (yes/no) questions were asked in order to determine history of physical and sexual abuse. Such queries included assessing for previous attacks with a gun, knife, or other weapon, hurt to the point that you had bruises, cuts, or broken bones, and participation in sexual acts against one's will. The timing of the last incident (e.g., never, more than 12 months ago, within the past 2 days) of physical, sexual, and emotional abuse was also assessed. The Childhood Trauma Questionnaire (Bernstein et al., 1994), a 13-item instrument used to assess the extent to which (never, rarely, sometimes, often, and very often) an individual had experienced sexual abuse (e.g., someone tried to touch me in a sexual way or tried to make me touch them.), physical abuse (e.g., people in my family hit me so hard that is left me with bruises or marks), emotional abuse (e.g., I thought that my parent s wished I had never been born), and/or neglect (e.g., my parents were too drunk or high to take care of the family) was used to assess mistreatment prior to age 18. Participation in antisocial acts during the past year was addressed by dichotomous (yes/no) questions that described such behaviors as theft, assault and battery, production and distribution of illicit substances, and possession of a weapon. Study participants were also asked if consuming methamphetamine during the past year caused self and other users to engage in violent acts such as verbal threats, physical assault, and use of a weapon.

Data Analysis

Bivariate relationships between the predictor variables and the dependent variable (sexual orientation) were examined. Student's *t* tests and Pearson's chi square statistics were used whenever the independent variable was dichotomous in nature. Analysis of variance was used whenever the independent variable was ordinal with less than five response levels. Linear regression was used

whenever the independent variable was a continuous measure. Significant associations between sexual orientation and selected variables of interest were determined by Fisher's exact *P* values < .05 (due to small expected cell sizes). All the statistical tests were two-tailed.

Results

The sociodemographic characteristics by sexual identity are presented in Table 1. Heterosexual methamphetamine users were significantly more likely to be younger, white, less educated, and to earn less than $1,000 per month than non-heterosexual methamphetamine users. Non-heterosexual methamphetamine users were significantly more likely to be employed full-time, live in one's own private house or apartment, earn more than $4,000 per month, and reside in an urban setting than their heterosexual peers. Nearly one out of every four heterosexual users reported being homeless in the last three months as compared to one out of every ten non-heterosexual users of methamphetamine. No significant differences were identified between heterosexual and non-heterosexual users based on parental or current relationship status.

Polydrug use typified both heterosexual and non-heterosexual male users of methamphetamine. Nearly all of the study participants reported lifetime use of tobacco (94%), alcohol (98%), and marijuana (97%). A majority reported lifetime use of powder cocaine (88%), hallucinogens (86%), ecstasy (64%), unprescribed opiates (55%), and crack (52%) at least once. Heterosexual users were significantly more likely than their non-heterosexual peers to report lifetime use of tobacco ($p < .05$), crack cocaine ($p < .05$), unprescribed opiates ($p < .01$), and amphetamine ($p < .01$) (see Table 2). Heterosexual methamphetamine users were also more recent smokers of marijuana in the past 90 days (89% versus 67%, $p < .01$) and in the past 30 days (84% vs. 61%, $p < 01$). Although both groups reported lifetime use of illicit substances, heterosexual males tended to initiate their drug use at an earlier age. Compared with non-heterosexual study

participants, a larger proportion of heterosexuals began using tobacco ($p < .01$), powder cocaine ($p < .01$), unprescribed opiates ($p < .05$), amphetamine ($p < .01$), hallucinogens ($p < .01$), methamphetamine ($p < .05$), and marijuana ($p < .05$) prior to being 17 years old. Whereas heterosexual males identified marijuana as their preferred illicit substance ($p < .05$), non-heterosexual men were more likely than heterosexual men to report methamphetamine as their primary drug of choice ($p < .05$) (see Table 3).

There existed no between-group differences in regards to the frequency of methamphetamine use in the past 30 and 90 days. Heterosexual users reported a higher prevalence of injection use of methamphetamine in the past 90 days ($p < .05$), and non-heterosexuals acknowledged greater proportion of the intranasal/snort method of administration ($p < .05$). The heterosexual study participants were more likely than their non-heterosexual peers to share their methamphetamine with relatives ($p < .01$), friends ($p < .05$), acquaintances ($p < .05$), and with dealers ($p < .01$). In addition, heterosexual users were more likely than non-heterosexuals to buy their methamphetamine with relatives ($p < .05$) or alone ($p < .05$), and non-heterosexuals were more likely to purchase methamphetamine with someone paying them ($p < .05$). Heterosexual users experienced greater physical symptoms (e.g., chest irritation, irregular heart beat, and paranoia) as a consequence of their methamphetamine use in the past 30 days than their non-heterosexual peers.

Study participants from both groups reported engaging in sexual behavior that put them at risk for contracting HIV, hepatitis C, and other STIs, although non-heterosexuals tended to engage in this behavior more often (see Table 4). Nearly one-half of all heterosexuals and over 40% of the non-heterosexuals report having had sex with an injection drug user. Non-heterosexual study participants were more likely than heterosexuals to have higher number of sexual partners in the past year ($p < .01$), including the frequency of sexual intercourse with casual partners ($p < .01$). A

greater proportion of non-heterosexual methamphetamine users also acknowledged having traded sex for drugs ($p < .05$). A greater proportion of heterosexuals than non-heterosexuals reported either almost always or always having sex while high on alcohol or drugs. However, heterosexuals were less likely than non-heterosexuals to have sex while one's partner was under the influence of drugs. Condom use in the past 90 days was erratic for both groups. Over 44% of heterosexual males reported never using a condom during the past year, while 32% acknowledged always using one. One out of three non-heterosexual participants admitted never using a condom in the previous 12 months, whereas over 44% always wore one.

Members of both groups were similarly informed of HIV/AIDS as demonstrated by nearly equal mean scores on such questions as "You can tell from looking at a person if they have the HIV virus", "HIV, the virus that causes AIDS, is present in semen, blood, vaginal fluid, and breast milk", and "Using a condom can reduce your chances of becoming infected with HIV." Although no between-group differences existed for previous Hepatitis C testing, a disparity in prevalence of HIV testing among the two groups was significant ($p < 0.01$) with nearly 20% of heterosexual males not being tested compared to none of the non-heterosexual study participants. Furthermore, reasons to obtain an HIV test also differed by sexual orientation. Heterosexual men were more likely than non-heterosexual men to be tested following a suggestion from a health care worker or partner ($p < .05$), or it was included in the admissions routine for drug treatment, jail, or prison ($p < .05$). Non-heterosexual users were persuaded more often than heterosexual users to be tested because of one's own perception of risk ($p < .01$). Non-heterosexual users were considerably more likely than their heterosexual peers to be HIV positive ($p < .01$), know someone with HIV ($p < .01$), or living with AIDS ($p < .01$).

Heterosexual male users of methamphetamine were more likely than their non-heterosexual peers to experience neglect prior to age of 18 ($p < .05$), and witness violent acts and be victims of assault as adults ($p < .05$). Non-heterosexuals self-reported being victims of sexual abuse at greater rates ($p < .01$) than their heterosexual users. Heterosexual users also engaged in antisocial behavior such as shoplifting ($p < .01$), theft ($p < .05$), physical assault ($p < .01$), production and distribution of illicit substances ($p < .01$), and carrying a weapon ($p < .01$) at greater rates than non-heterosexuals. A greater proportion of heterosexual users were more likely to identify methamphetamine as causing violence in others ($p < .05$), including verbal insults ($p < .05$), pushing or hitting others ($p < .05$), and using a weapon ($p < .05$). However, no between-group difference existed when study participants were asked if their methamphetamine use caused them to be more aggressive.

Discussion

This study is one of the first to differentiate male users of methamphetamine based on sexual orientation. The major finding of this study was that among this targeted sample of active male users of methamphetamine, significant differences in socio-demographics, drug use patterns, at-risk sexual behavior, and exposure to violence were found between heterosexuals and non-heterosexuals. Demographically, these two groups were distinctive with heterosexual users reporting fewer primary life coping resources as characterized by lower monthly income, less educational achievement, and greater temporary living arrangements than non-heterosexual users of methamphetamine. These findings are noteworthy because heterosexual users may be more likely than non-heterosexual users to experience potential barriers to medical, substance abuse treatment and other mental health resources due to lack of insurance, financial resources, or dependable housing (Mojtabai, 2005). Although methamphetamine is mostly used by whites, results from this

study indicate that methamphetamine use is not limited to this population. In this study, African American use of methamphetamine appears in greater proportions than recent epidemiological indicators suggest (Community Epidemiological Work Group, 2005; SAMSHA, 2005). Yet, methamphetamine use among African Americans appears to be mostly limited to gay and bisexual men; its use having largely failed to enter the African American heterosexual male community. Future epidemiological mapping of methamphetamine trends among African-Americans is critical because of its potential for future proliferation in this region.

Although lifetime polydrug use was high among both heterosexual and non-heterosexual participants, their drug trajectories differ in important ways. The earlier commencement of drug use by male heterosexual methamphetamine users may have significant consequences on school performance, affective, physical, and neurological development, relationships with parental figures, and other psychosexual maturity. In contrast, non-heterosexual users of methamphetamine may experience more recurrent problems related to their employment. Although no significant differences existed between the two groups regarding frequency of methamphetamine use, heterosexual users were more likely to use marijuana regularly and identify marijuana as their primary drug of choice. Elevated frequency of smoking marijuana in this methamphetamine-using sample is consistent with previous research (Hirschfield, Remien, Humberstone, Walavalkar, & Chiasson, 2004; Newmeyer, 2003). Higher prevalence of injection drug use (IDU) among heterosexual men in the past 90 days is a significant concern given the younger mean age of heterosexual users, frequent polydrug use, and sporadic HIV testing.

The findings from this study support previous research that links methamphetamine use with at-risk sexual behavior among MSM, especially the number of sexual partners and irregular use of condoms (Halkitis, Shrem, & Martin, 2005; Kurtz, 2005; Lee, Galanter, Dermatis, & McDowell,

2003). The participation in sexual activities with two or more partners at the same time by non-heterosexual users provides a potential explanation of how this group averaged 20 sexual partners within a 12-month period. However, in this sample, inconsistent use of condoms was evident among both groups of men, not just non-heterosexuals. The lack of HIV and hepatitis C testing is particularly problematic with heterosexual users and substantiates the need for prevention and intervention efforts that target heterosexuals and non-heterosexuals.

While previous research has examined the relationship between violence and methamphetamine use in male users (Buffenstein, Heaster, & Ko, 1999; Haight, Jacobsen, Black, Kingery, Sheridan, & Mulder, 2005; Zweben et al., 2004), there remains no distinction between aggressive behavior, methamphetamine consumption, and the user's sexual orientation. Findings from this study suggest that heterosexual users of methamphetamine are more likely than their non-heterosexual peers to engage in behaviors that could lead to arrest or serious injury to self and others. By participating in shoplifting, thefts, hitting someone else, or selling illicit drugs, heterosexual male users of methamphetamine appear to be at greater risk of entering the legal system than non-heterosexual users. Heterosexual male users of methamphetamine may also be more likely than non-heterosexuals to utilize medical services such as emergency rooms and medical clinics to care for potential injuries, although they are less likely to be insured. When asked how methamphetamine influences aggression in self and others, it is important to note that heterosexual participants, even though they acknowledge that methamphetamine use causes others to be violent, do not identify their own use of the drug as causing them to be more violent. Future prevention and education efforts targeted at heterosexual male users of methamphetamine will need to address the link between its use and potential for aggression.

Despite significant findings, limitations to our study should be considered. First, all data from this study were collected via uncorroborated self-reports, which may have been influenced by social desirability. Therefore, the accuracy with which respondents reported their involvement with methamphetamine and other drugs cannot be known. However, previous researchers in the substance abuse field have found high reliability and validity in self-reported data from other substance-using populations (Day, Collins, Degenhardt, Thetford, & Maher, 2004; Neale & Robertson, 2003; Parra, O'Neill, & Sher, 2003). A second potential limitation relates to recall bias. Respondents were asked to describe polydrug use and an array of beliefs and attitudes in time periods ranging from present day, within past 30 and 90 days, and over a lifetime. The exact influence of how recall bias might influence the data cannot be determined. A third possible limitation is the sampling strategy used in data collection. Because all data were obtained from individuals residing in metropolitan Atlanta, Georgia, results may not be generalizable to other regions of the United States, as well as to more suburban and rural areas of this Southern state. Furthermore, this study is not necessarily representative of all methamphetamine users in Atlanta, Georgia because a random sample was not drawn. The survey did, however, recruit participants from diverse settings and at varying times of day in order to increase the representativeness of the sample. Finally, the small sample size limits the extent to which the findings can be generalized to other populations of male methamphetamine users. The targeted sampling approach used resulted in a relatively small percentage of non-white study participants and therefore, the results need to be interpreted with caution when applied to ethnically diverse users.

As methamphetamine continues to be a growing drug problem facing this country, especially in the Southeast, it is essential to ascertain a better understanding of its users. While much emphasis has been placed on MSM who use the drug, little empirical attention has been

devoted to heterosexual male users of methamphetamine. This study has provided greater insight into heterosexual male users by comparing their socio-demographics, drug use histories, sexual at-risk behaviors, and exposure to and participation in violent actions to non-heterosexual male users. The results from this investigation can lead to the development of successful effective prevention and intervention strategies that are tailored to meet the needs of heterosexual and non-heterosexual male users of methamphetamine.

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Table 1
Socio-demographic characteristics of identity (N = 108)

	Heterosexual Users (n =69)	Non-Heterosexual Users (n=39)	P
Age (years)	24.8	31.5	<.01
Racial/Ethnic Background (%)			<.01
African American	2.9	23.1	
White	87.0	66.7	
Hispanic	1.4	5.1	
Other	8.6	2.6	
Education (%)			<.01
1st-11th grade	24.3	7.8	
High school diploma/GED	31.9	17.9	
Post high school technical training certificate	2.9	0.0	
Some college	36.2	38.5	
College degree	2.9	28.2	
Post-college education	1.4	7.7	
Total Legal Personal Income (past month) (%)			<.01
$0 - $499	41.1	10.5	
$500- $999	21.4	28.9	
$1,000 - $1,999	23.2	13.1	
$2,000 - $2,999	8.9	23.5	
$3,000 - $3,999	3.6	2.6	
Over $4,000	1.8	21.1	
Location of current living (%)			NS
Own private house or apartment	39.1	53.8	
A public housing or section 8	0.0	10.3	
Someone else's house/apartment	39.1	17.9	
A hotel	2.9	2.6	
On the streets	10.1	7.7	
Other	8.6	7.8	
Last time you were homeless? (%)			NS
Never	52.2	76.9	
More than one year ago	17.4	5.1	
Between 6 months and 1 year	1.4	5.1	
Between 3 and 6 months ago	5.8	2.6	
Less than 3 months ago	23.2	10.3	
Have children (% yes)	18.8	10.3	NS
Current relationship status (%)			NS
Single	56.5	55.3	
Separated, divorced, or widowed	5.8	5.3	
Married or common law married	2.9	2.6	
Living with partner	14.5	13.2	
In a steady relationship with a partner (does not live with you)	11.6	13.2	
In a steady relationship with a partner (does live with you)	8.7	10.5	

Table 2
Substance use of participants according to sexual identity ($N = 108$)

Substance History	Use < Age 17			Lifetime Use			Use Past 30 Days		
	Het (%)	Non-Het (%)	*P*	Het (%)	Non-Het (%)	*P*	Het (%)	Non-Het (%)	*P*
Tobacco	85.5	53.8	<.01	94.2	82.1	<.05	79.7	61.5	NS
Alcohol	89.7	86.8	NS	98.6	97.4	NS	88.4	76.9	NS
Crack Cocaine	7.2	2.5	NS	58.8	39.5	<.05	15.9	17.9	NS
Powder Cocaine	37.7	5.1	<.01	87.0	89.5	NS	50.7	33.3	<.05
Heroin	4.3	5.1	NS	40.6	34.2	NS	8.6	7.6	NS
Other unprescribed opiates	20.2	10.2	<.05	65.2	36.8	<.01	30.4	7.6	<.05
Methamphetamine	42.0	28.0	<.05	100.0	100.0	NS	100.0	100.0	NS
Amphetamine	21.7	2.5	<.01	54.5	27.8	<.01	11.6	2.5	NS
Hallucinogens	49.2	15.3	<.01	89.7	78.4	NS	30.4	12.9	NS
Marijuana	71.0	53.8	<.05	95.6	100.0	NS	84.4	61.5	<.01
Ecstasy	15.9	5.1	NS	63.8	64.1	NS	43.4	35.9	NS

Table 3
Methamphetamine-related behaviors by sexual identity(N = 108)

	Heterosexual Users (n =69)	Non-Heterosexual Users (n=39)	P
Number of days used in past 30 (mean)	9.8	10.0	NS
Number of day used in past 90 (mean)	33.9	27.9	NS
Preferred method of administration in past 90 days (%)			<.05
Oral	7.8	2.7	
Intranasal/Snort	53.1	62.2	
Smoke	10.9	13.5	
Inject	26.6	21.6	
Current drug of choice (%)	45.6	55.3	<.05
Bought drug with in past 30 days (%)			
Relatives	14.5	0.0	<.05
Friends	76.8	64.1	NS
People who pay you drugs for sex	1.4	12.8	<.05
Nobody (by yourself)	37.7	17.9	<.05
Shared drug with in past 30 days (%)			
Relatives	20.6	0.0	<.01
Friends	92.6	82.1	NS
People who sell drugs	58.8	33.3	<.05
Experienced as a result of use in past 30 days (%)			
Nose irritation	35.7	48.6	NS
Nose bleed	19.6	10.8	NS
Chest irritation	33.9	13.5	<.05
Irregular heart beat	58.9	27.0	<.01
Headaches	39.3	27.0	NS
Paranoia	60.7	32.4	<.01
Loss of appetite	76.8	75.7	NS
Use often or always out of control in past 30 days (%)	12.5	13.5	NS
Wish often or always to stop using in past 30 days (%)	26.8	27.0	NS
Impossible or very difficult to stop using (%)	30.3	24.3	NS

Table 4
Sexual at-risk behaviors and knowledge of HIV/AIDS and Hepatitis C by sexual identity (N = 108)

	Heterosexual Users (n =69)	Non-Heterosexual Users (n=39)	P
Sexual At-Risk Behavior			
Have you ever had sex with a person who injected drugs? (% yes)	49.3	41.0	NS
Have you ever had sex with a person who you paid for money or drugs? (% yes)	18.2	24.2	NS
Have you ever exchanged sex for place to stay? (% yes)	14.5	17.9	NS
Have you ever traded sex for drugs (% yes)?	21.7	36.8	<.05
Mean number of sexual partners (past year)?	7.3	19.1	<.01
Mean number of casual male partners (past year)?	0.0	13.4	<.01
Mean number of casual female partners? (past year)?	5.8	1.0	<.05
Almost always or always have sex while high on alcohol/drugs in past year (%)	37.5	31.5	NS
Almost always or always have sex while your partner was high on alcohol/drugs (%)	27.3	34.2	NS
Sometimes or almost always have two or more sexual partners at the same time in past year (%)	16.1	34.2	<.05
No use of condoms in past year (%)	44.2	33.0	<.05
HIV/AIDS & Hepatitis C			
Knowledge of HIV/AIDS Questionnaire mean score	6.6	6.7	NS
Never been tested for HIV (%)	19.8	0.0	<.01
Never been tested for Hepatitis C (%)	47.6	63.6	NS
Self-identified risk for Hepatitis C infection (%)	46.2	53.8	NS
Influences to get tested for HIV (%)			
Thought he was at risk	32.7	50.0	<.01
Health care worker or part of routine medical exam	16.4	2.6	<.05
Partner wanted me to get tested	16.8	7.8	NS
Know of someone who is HIV+	58.0	94.9	<.01
Know of someone living with AIDS	43.5	71.8	<.01
Know of someone who has died of AIDS	47.8	64.1	NS

Table 5
History of violence and influence of methamphetamine by sexual identity*N* = 108)

	Heterosexual Users (*n* =69)	Non-Heterosexual Users (*n*=39)	*P*
Child Trauma Questionnaire: 4 Subscales (Mean)			
Neglect	5.7	4.6	<.05
Physical	3.1	2.6	NS
Sexual	3.4	4.6	<.01
Emotional	7.1	5.8	NS
Seen someone being physically attacked (past year)	87.0	56.8	<.01
Attacked with a weapon (past year)	61.2	41.7	<.05
Been hurt that caused bruises, cuts, or broken bones (past year)	82.1	51.4	<.01
Antisocial Activity			
Taken something from a store without paying for it	55.2	28.2	<.01
Other than from a store, taken money or property that did not belong to you	34.3	15.4	<.05
Used weapon or force to get money or things from person	10.4	0.0	<.05
Hit someone or got into physical fight	50.7	23.1	<.01
Hurt someone badly enough they needed bandages or a doctor	22.4	5.1	<.05
Sold, distributed, or helped make illegal drugs	73.1	30.8	<.01
Carried knife or sharp weapon	53.6	22.9	<.01
Carried a gun	21.7	8.3	<.05
Methamphetamine makes others more aggressive (%)	82.6	60.6	<.05
Verbal insults	72.3	35.5	<.01
Pushing	61.7	29.0	<.01
Using a weapon	42.6	16.1	<.01
Methamphetamine makes me more aggressive (%)	29.1	37.1	NS